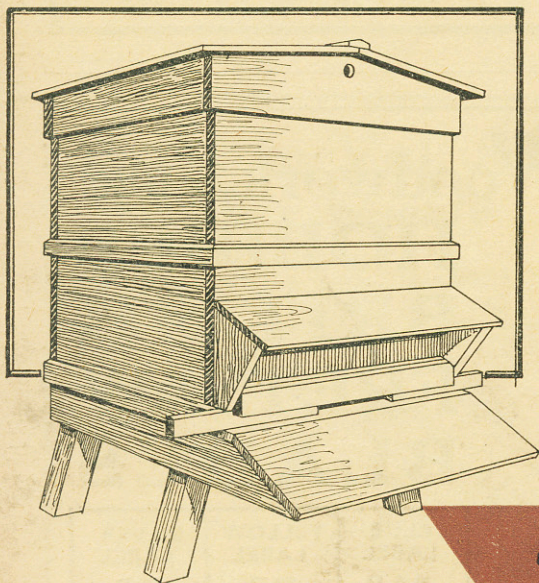


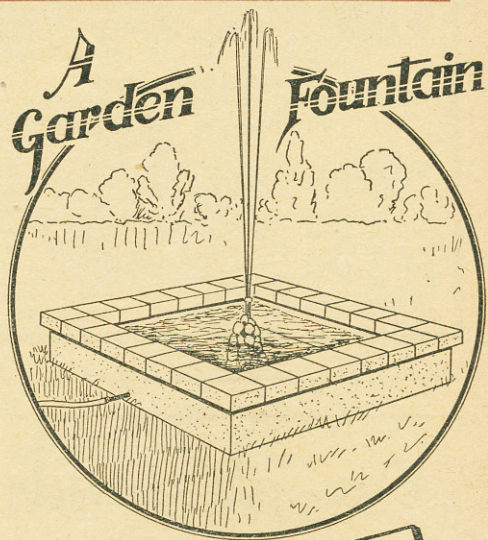
Hobbies

WEEKLY

HOW TO MAKE A BEEHIVE



April 17th. 1937



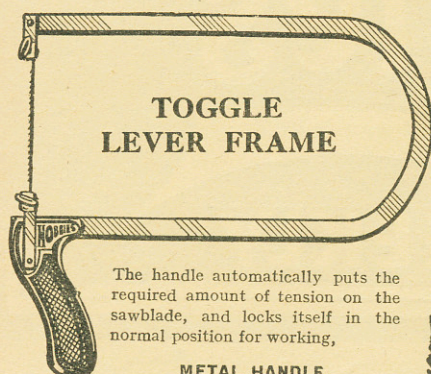
LARGE DESIGN
FREE FOR A
DOUBLE PICTURE
FRAME

2^D

Vol. 84. No. 2165

THE **FRETWORKER'S** AND
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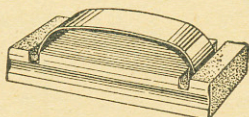
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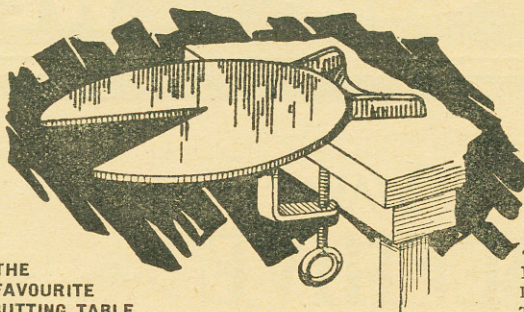
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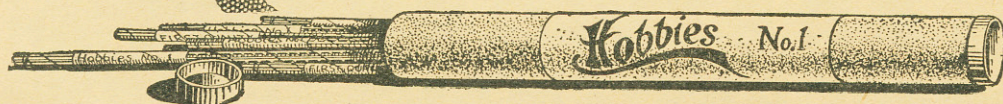
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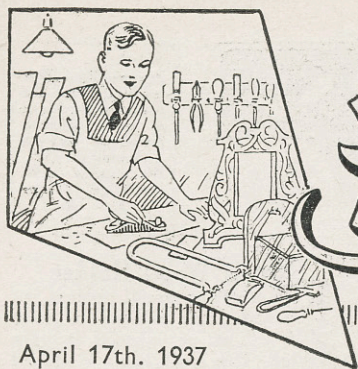
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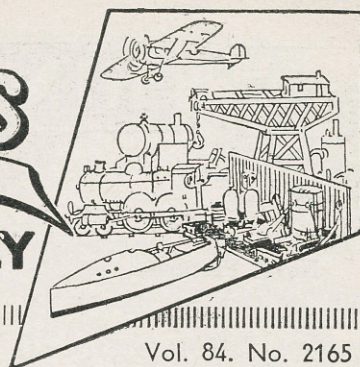
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Hobbies

WEEKLY



April 17th. 1937

Vol. 84. No. 2165

ALREADY, I find that Coronation Coach has been made up all over England, and readers have written their delight at its simplicity and excellence. Many have asked about the horses, which do so much to make the whole thing realistic. Those shown in the picture were supplied by The Forest Toys, but as they are all hand carved they are a bit expensive. The horse and the rider cost 3/- each, but if you cannot afford so much then you might be able to cut out your own in thick wood. Get an artist friend to draw out the shape with one side and two legs on one piece and the other side and two legs on another. When glued together, they should make quite a realistic shape and can be rounded and shaped with knife and glasspaper quite easily.

Then with regard to painting the coach there are many pictures now in colour which act as a helpful guide. Even cigarette cards and sweetmeat cards have the pictures, whilst postcards are available giving realistic colouring.

NATURALLY with the approach of longer and warmer days, our thoughts turn to outdoor handiwork. I have, therefore, been asking my expert contributors to let me have articles on special subjects which I know will appeal. So look out for more good things to come. As a slight idea I may mention one or two. There is a splendid Wall Holder for outdoor tools, a novelty Ping Pong Game for the Beach or Garden, a complete Garden Set of Table and Chairs, Poultry House fittings, Games for Camp and Picnic as well as a number of practical hints on Cycling, Photography, Camping and so on. So you really must make sure of having every copy regularly. It is such a pity to miss even a single one, because that is sure to contain something you badly want.

WE do not generally realize how much

a "spot of oil" can be and should be used in the home. I mention this because I have just been looking at a booklet published by the 3-in-1 Oil people, which gives no less than nearly 50 occasions and places where a little oil will make things run or act more smoothly or look better in appearance. A tin of oil is essential to have about the house, and if you have 3-in-1 you will have it in a handy container, easy to use, but of a quality and purity which are superior to most varieties for cleaning, preserving and lubricating.

A READER tells me of a marvellous working model of Blackpool Pleasure Beach which he saw recently in a Store. It is complete with Scenic Railway, Circus, Side Shows, Fun Fair, etc. and is a marvel of ingenuity and most fascinating to watch. The idea may appeal to other readers, although they may not be prepared to spend 22 years at it—which was what this particular one took!

DID you hear of the fellow who collects and exhibits car licences? A quaint and slightly expensive idea which can only be carried out by those fortunate enough to travel. This gentleman, however, was an actor who had been abroad a great deal, and who made a point of getting one in every part. Of course, we poor ordinary people have to be content with bus tickets!

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Next Week's Design—Coronation Plaque

Correspondence should be addressed to: The Editor, Hobbies Weekly, Dereham, Norfolk, and a stamp enclosed with the reply Coupon from Cover iii if a reply is required. Particulars of Subscription rates, Publishing, Advertising, etc. are on cover iii.

MENTIONING collections I am reminded of the man in Burnley who saves up ash trays and now prizes several hundreds of them. Don't ask me why, because I don't know, and I certainly imagine there are much more interesting and enjoyable things to do than that!

I must certainly keep a list of the weird and wonderful collections I keep hearing about.

The Editor

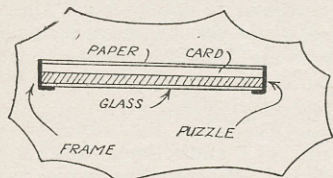
Send your own simple tips to The Editor Hobbies Weekly, Dereham, Norfolk. Keep them short and add rough pencil sketches if possible.



For original Tips published the sender will receive a novel Mirror Notebook with Calendar for 1937. We cannot acknowledge all tips sent in.

Novel Pictures

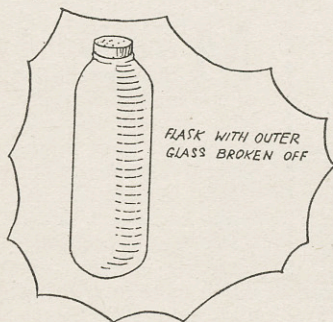
THE next time you assemble a jig-saw puzzle, do not dismantle it. Purchase a piece of glass and piece of cardboard the same size as the completed puzzle, and sufficient picture moulding to make a frame. Make the frame, carefully transfer the puzzle to the glass by placing the latter on top of the puzzle and inverting the whole lot, place inside frame and



put cardboard on top. Fix with panel pins and paste a piece of paper—brown preferably—over the back and allow to set. If desired, the frame can be painted. It will look very attractive hanging on the wall of your workroom or anywhere else, and you always have the satisfaction of being able to say "I made that."—(R. J. Gladdis).

A Home-made Flask

TO make a flask for use in scientific experiments, obtain an old thermos flask and remove the outside tin covering. Then very carefully break off the outer



glass (which will probably be broken already), and you will be left with the inner container which makes a very good flask. Water will remove the silver coat from the outside of the flask.—(James Anderson).

A Painting Tip

HERE is a tip that will be found of great help in painting skirting boards. To prevent paint marking the floor boards, lay a flat sheet of metal immediately below the section you are painting. This will catch superfluous paint, and enable you to do your work cleanly and more speedily. The same idea can be utilized when staining or painting floors. The sheet of metal is then used as a shield to protect the skirting boards from being marked by the stain or paint.—(W. G. Hardy).

Airing Camp Blankets

HERE is a simple tip useful to scouts and campers. After the night, the blankets are apt to be damp and airing them often proves a difficulty when there are no walls or trees about on which to spread them. Place the blanket flat on the ground and put a stone or other weight on each corner of the side facing the breeze. Then place a stick upright in the middle of the side and thus the breeze will blow through and air the blankets or sheets very satisfactorily.—(H. O' Connor).

Short of Plastic Wood

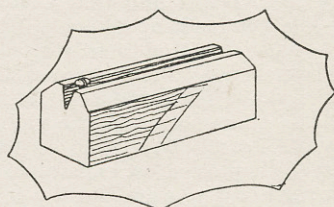
WHEN short of plastic wood a fairly good mixture can be made from Hobbies Lightning polish and sawdust. The colour varies according to the sawdust.—(John L. Peel).

A Staining Tip

WHEN polishing, if the wood is solid oak or mahogany and a water stain is to be used, it is advisable to wipe the surface with a wet cloth after cleaning up. This causes the fibres to rise considerably, and when it is dry it can again be glasspapered flat. By this means when the stain is applied, the fibres have not the same tendency to rise.—(C. Nolan).

Small Wood Holder

FOR holding small pieces of wood when planing, a block of wood as per sketch is very useful. This block has a V shaped groove in the top, with a screw



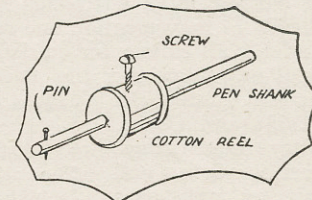
fixed in one end. The head of the screw is left protruding and serves the same purpose as a bench stop.—(K. Scamell).

A Scraper

IF you have any old files, instead of throwing them away, heat one end and bend it at right angles to the file. Then sharpen the end, and it will make a fine scraper.—(Bruce Maddison).

Handy Marking Gauge

MARKING gauges are essential to the woodworker if he is to get accurate results as regards to size. A home-made one can be made simply with a cotton reel, a small nail, a pen shank, and a



screw. The pen shank should be an easy sliding fit inside the cotton reel. Drill a hole in the side of the cotton reel, and fix the screw in, which will act as a lock. Then file the nail to a point and bang it in one end of the pen shank.—(F. Bashford).

Shabby Umbrella

INFUSE a pint of strong tea and strain into a basin. Add 2 lumps of sugar, brush off the dust, and sponge umbrella with a rag dipped in the hot sweetened tea.—(E. Bell).

The FRETWORKER

FRAME FOR TWO POST CARD PICTURES

THE gift sheet presented to the worker this week is for making a double postcard photo frame. It follows out a pattern and style which should be popular both with the beginner, and with the experienced worker. The design has purposely been kept straightforward and simple, and in no instance is there a large amount of work to undertake. The flowing curves are interlaced between and around the two upright postcard size openings, and above we have a dentil course which further adds to the beauty of the finished job.

The comparatively small number of frets in the design are sure to stand up stronger than if there was a mass of cutting to be done, and a glance at the picture of the finished article shows you how important it is to get the cutting lines accurate.

Some, for instance, appear to pass right behind the two postcard pictures, and come out each side. A curve also flows below the pictures with one long shapely sweep.

Obviously, therefore, unless the cutting is true, the whole thing is going to be spoiled just by altering the position or the style of these curves or lines.

Suppose the jutting out piece on the righthand side was, say, $\frac{1}{4}$ in. or $\frac{1}{2}$ in. lower or higher than the same one on the opposite side—then the effect would be quite ugly, and stand out as a glaring mistake. Look, too, at the dentil courses above the picture openings.

The Dentil Course

Here we have a series of toothlike projections surmounting a piece of fancy moulding. When you have cut the part concerned, stand a ruler all along the edge, then notice how much you have run off the actual cutting line. This will easily show, because on holding it up you can see light between the wood and the ruler at any points which have gaps.

So again the distance between these dentil projections should be exactly the same. If you have one thin and one thick, one tall and one short, the resulting frame will look sadly awry. Although, therefore, as we say, there is not a great deal of actual work to be done, care should be taken with every point to get a perfect result.

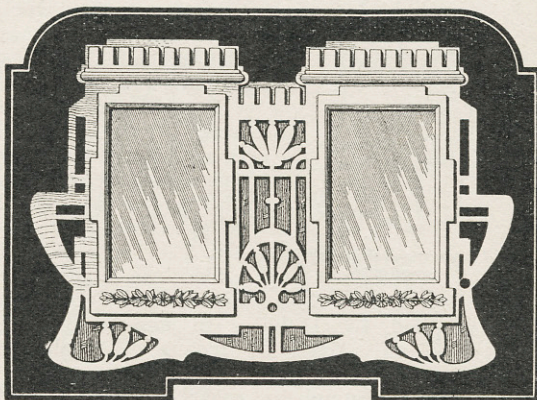
A clean straight cutting line and a balanced

effect if the part is symmetrical with any other portion. Watch the sweep of the whole curve if you happen to be taking that type of line.

Do not just keep your eye on the point of the sawblade, but glance ahead occasionally to see that the whole length of the line is as it should be.

When you are cycling round a corner, you do not glance just where your wheel is travelling, but look forward in order to take the sweep of the corner nicely and without fierce alteration of direction. The same applies to the curved cutting of the fretsaw.

The wood itself can be any of the ordinary popular varieties, but we can recommend a suitable



Cut from Design Chart No. 2165

panel of mahogany as supplied by Hobbies, which takes the whole of the main back in one board. Then on top of this come the various overlays which should be of whitewood or some contrasting timber which will make these parts stand out from the back strongly.

The overlays themselves are not large nor intricate, most of the work being involved in the main back itself. It is in this large piece that the opening for the two postcard glasses is cut. These openings, however, should be left until last because they will provide a greater strength to the wood for turning.

Have the Glass Ready

You can, of course, cut the outline first, then the interior frets, then the two large openings for the pictures. A suitable glass is supplied for these, by the way, and one is recommended to have it at hand in order to lay it on the design pattern to ensure that when the opening is cut the glass will fit in snugly.

As, too, the piece of wood which comes out will

MATERIALS REQUIRED

For making this design we supply a parcel of Mahogany with Whitewood for overlay and sufficient fancy Moulding for 1/5 post free 1/9.

Fittings include two pieces of clear glass 2d. each, two fancy sprays 3d. each, and a dozen photo clips 1d. Complete fittings 11d., post free 1/2.

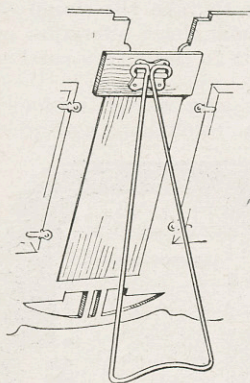
Complete wood and fittings 2/6 post free.

be replaced later for backing, the hole for threading the sawblade should be made actually on the cutting line. The best place is in one of the corners where it will be quite unobtrusive.

Cut these openings with the lines quite straight, and note which way the wood comes out. A good plan is to run a light pencil mark across one of the sawcuts so a piece of the mark is on the part coming out, and the other piece of the mark on the main framework. Thus it is an easy matter to lay the two parts together later on by rejoining the pencil marks showing.

Main Back

The main back is cut from 3/16in. wood, but the overlays are of 1/4in. material. Two are cut alike to hold the glass in place at the front, and the interior openings of these should be chamfered with a file before being glued in place on to the back.



A back view showing support

Do this chamfering carefully, running the file across the grain and keeping the slope the same the whole way. A 6in. or 8in. medium flat file is best for this purpose.

Put the glue on the back of the overlays then lay them flat to the main piece and hold them there with weights until the glue has set. To each is added a single long

floral decoration. These ornamental decorations are supplied by Hobbies in embossed brass, and are easily fixed by means of small fret pins.

One is put through the centre, and one at each end, taking care to use a tiny punch over the fret nail to prevent the hammer damaging the actual metal of the overlay.

It is, of course, no use attempting to glue these overlays down because it will not hold the metal in place. Above each postcard opening is the dentil overlay, and on this, in turn, is fitted a piece of moulding. The ends of this moulding follow out the same shape as the back overlay, and a good plan is to glue it down to the overlay so the two parts can be cut together. A detail

showing the moulding in place is given on the design sheet.

The two overlays of this dentil course are then glued above the picture overlay, allowing a space of about 1/4in. between. The position, of course, is shown by the dotted lines on the sheet, but these will not be apparent as the pattern remains will all have been glasspapered away.

The ruler and pencil, however, will soon measure and mark the position of this small overlay, and a good plan is to run a line along so that when the piece is glued it can be laid in position without any further movement.

Gluing Hints

Where any parts are glued together, of course, pressure should be put on to hold them until the glue is set. If you are putting a board with some weights on, be careful not to move the part in doing so. Nothing is more annoying than to take away the weights and the pieces of packing wood only to find the part glued has been affixed askew or incorrectly through its sliding when the weight was put on.

The frame is intended as a standing one for a desk or table, although, of course, it can be used for hanging by putting on suitable wall hooks or a small cord. If, however, you are making it to stand, then one of the Hobbies special strut supports is ideal.

The Back Support

A back view of the frame is given in the detail herewith, and the position of the support is plainly shown. This is easily affixed by means of short screws or nails driven through the plate which is supplied with the actual metal support.

In order, however, to take the screws, a greater substance of wood is required, and this is provided by a small piece shown in the bottom righthand corner of the design sheet.

It is cut from the waste of the overlay centre, and glued to the back of the frame behind the short dentil course in the middle. A dotted line indicates this on the pattern sheet, and the part is glued securely so the upper edge is about 3/16in. above the back. Glue the piece on firmly, and leave it before you fix on the support strut.

The ornamental fretwork between the frames can be backed up with linen cloth or some suitable fancy material which will serve to bring it into greater relief and accentuate the charm of the floral fretted sprays there shown.

Hints on Painting—(Continued from opposite page)

if necessary with linseed oil and turpentine in equal parts. Pour into the paint strainer and let it run into the paint can, stirring it occasionally to expedite the business.

There is a method in painting which should be followed for good results.

The paint should be laid on the way of the grain first, then cross-brushed and finished with long strokes, also the way of the grain, the object being to lay on the paint evenly and free from brushmarks.

Doing a window, first paint the sash bars, using the shield to protect the glass. Then paint the

cross bars and finish with the top and bottom bars. This done, paint the inner side of the casing, then the outside beading and flats. Paint the mouldings before the flat surface.

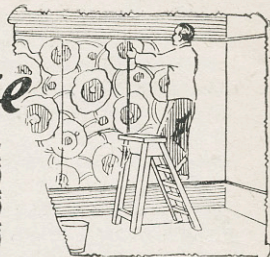
Doing the door, paint the panels first, then the mouldings. Follow with the two middle vertical boards, then the top, middle, and bottom cross rails and finish with the side stiles and edges.

Work done, clean the brushes with turpentine and unless they are to be used for another job immediately, wash them out with soap and water to be ready for another day.



Jobs about the House

HINTS ON PAINTING



A GOOD job of painting can be done by almost anyone willing to take a little trouble. Failure is usually due to lack of preparation beforehand and slapdash method of working.

Fortunately, few tools are required besides the paint itself. A paint can will be useful also a paint strainer. Both these are shown in Fig. 1, A and B, and might be considered by some as unnecessary—it is a mistake, however, to use paint in the tin as bought and unstrained.

A paint strainer may be bought but can also be made at home. The one sketched is an ordinary empty tin, with the bottom cut out and a thickness of coarse canvas stretched across. The paint may be improved by punching a hole each side in the tin near the rim, and threading through a piece of stiff wire, as shown.

The charged paint brush is drawn across the wire each time to remove surplus paint, this being a cleaner method than drawing it across the rim

turpentine in equal quantities with the addition of 1 oz. of paste driers to each pound of mixed paint.

If only a small quantity is required, buy it ready made. When this is dry, any defects such as cracks, etc., should be filled up with putty and white lead mixed, then the undercoating should be put on.

This is usually a lead coloured paint, with little linseed oil, so as to dry flat. On this the finishing coat of glossy or varnish paint can be applied.

Smoothing Down

If the wood has been painted beforehand, but only with one or two coats, it may not be necessary to remove it but it must be smoothed down. Buy a lump of pumice stone, swab the work with water and rub down with the pumice stone until smooth.

Finish with clean water and when dry, the undercoat and then the finishing coat can be given. If the work has previously received a good undercoat, then a finishing coat may be all that is necessary.

When the work has already been painted more than once, then for a good job it will be necessary to remove all the old paint to the bare wood.

This can be done either with a blow-lamp or proprietary paint remover. The blow-lamp is the quickest and cheapest but care should be taken not to let the flame play on the work too long and so burn the wood underneath. It should only touch the paint long enough to soften it and allow it to be stripped off with a paint stripper.

Also, avoid the flame touching the glass when doing the windows or a breakage may ensue.

Paint Removers

Proprietary paint removers are applied like paint, with an old brush, left for a while after which the paint can be stripped off.

This job done, the work should be rubbed over with glasspaper to remove any stray scraps of paint and, if a paint remover has been employed, washed over with vinegar and water to kill the alkali. After this treatment, the wood is painted as for new wood.

A word as to the paint. It does not, as a rule, pay to mix one's own paint for a small job, it is best to buy it ready mixed, but, purchase good quality stuff and do not be tempted with cheap paint. What with its lack of covering power, poor wearing qualities, and inferior appearance it is a waste of time and money.

Having got the paint, mix it up well and thin
(Continued on facing page)

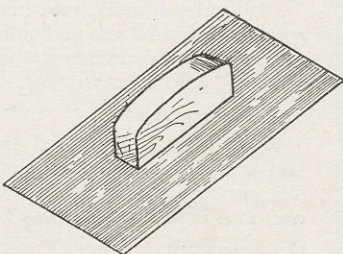
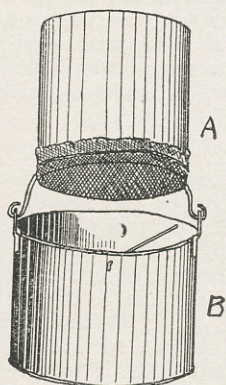


Fig. 2 (above)—A suitable shield piece

Fig. 1 (left)—Straining the paint

whereby the paint trickles down the outside of the can and makes a mess.

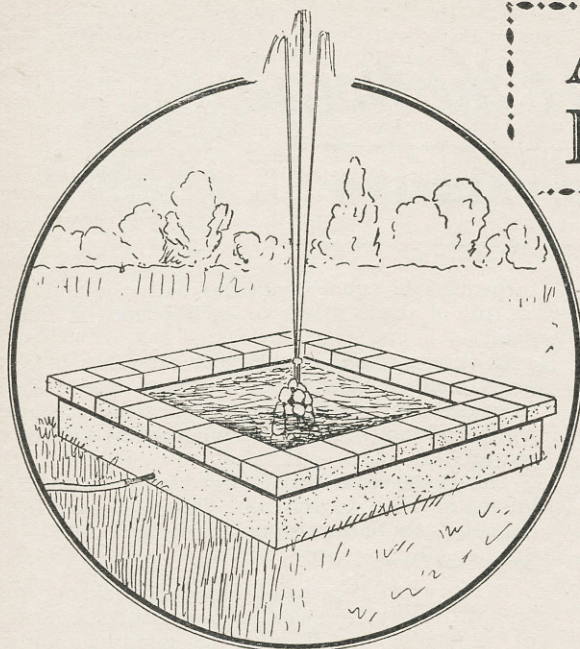
A shield, Fig. 2, is another useful appliance. It is just a 4 in. by 4 in. piece of zinc or tinplate, with a piece of wood nailed to it for a handle. It is pressed against the glass when painting sash bars, to keep the paint from soiling the glass, it can also be used to protect the wallpaper when painting the skirting boards.

At least two brushes will be necessary, a $\frac{3}{4}$ in. flat brush for mouldings and a $1\frac{1}{2}$ in. or 2 in. one for broad surfaces.

For New Wood

If painting new wood, give a coat of priming colour first to stop suction. This is white lead, ground in oil, with a little red lead to stain it, mixed to a thin consistency with linseed oil and

A GARDEN FOUNTAIN



READERS who are fond of their gardens will doubtless welcome the simple design of fountain sketched. It is a pleasing addition to any garden and the work can be easily carried out.

The water supply is, of course, all important as one cannot have a fountain without water, and must be considered first.

Supply cannot be taken from the mains without the Water Company having something to say about the matter, the result generally being that a meter (for which you have to pay) is insisted upon and payment demanded according to the quantity of water consumed.

Alternatives to this are an elevated supply tank or what is infinitely better, an electrically driven pump. All three sources will be dealt with in turn.

Concrete Mixture

To start making the fountain. First study the section, Fig. 1. Concrete is used for its construction, consisting of 1 part cement, 2 parts sand and 3 parts coarse aggregate. The latter may be $\frac{3}{8}$ in. shingle, marble chippings or stone, whichever is the easiest to get locally.

Select the site and dig out the earth to a depth of 4 ins. Measure out the ingredients of the concrete in a dry state, using say a small bucket

for a measure. Spread out and turn over a few times until the whole is well mixed.

For every 6 measures of dry mixture, $\frac{3}{4}$ of a measure of water will be required, poured over the concrete through the rose of a watering can. Turn over two or three times until the mass is uniformly moist and shovel into the excavation, then level off the surface with a straight edged slip of wood.

The Walls

The concrete should then be level with the ground which will mean it will be 4 ins. thick. It should form a square a trifle over 4 ft. each way.

Now keep the concrete damp, either with wet sacking or an occasional spraying for about a week. This applies to all concrete moulds and is a kind of seasoning before use.

For the walls of the basin make a mould as follows. First knock up a frame of wood 6 ins. high and 3 ft. 10 ins. sq., inside measurement. Screw together so as it can be taken apart later. Now make up a second and inner frame, the same height but 3 ft. 2 ins. sq., outside measurement.

Place the frames, one inside the other, on the concrete foundation and nail across the top a few pieces of wood to keep them an equal distance apart all round, as in Fig. 2.

The Delivery Inlet

Holes should be bored through the frames for the suction and delivery pipes of the fountain. The suction pipe is used only if a pump is provided, and is a length of $\frac{1}{2}$ in. gas barrel screwed one end for a strainer and the other for a hose connector.

The holes should be bored so it can be inserted sloping downwards, as in Fig. 3. If the mains or an elevated tank is used, instead of a suction pipe an overflow pipe will be needed. This is inserted through holes in the frames about 1 in. or less from the top.

The delivery pipe is another length of $\frac{1}{2}$ in. gas barrel, with a short length joined up at right

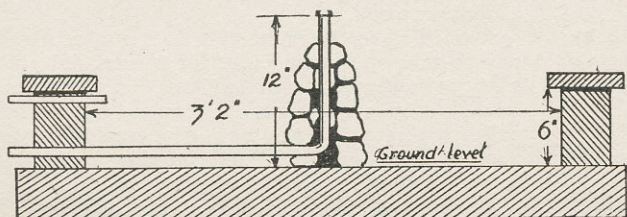


Fig. 1—A sectional view showing basin and pipes

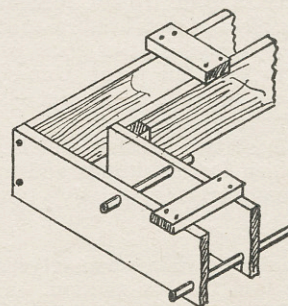


Fig. 2—The frames for the concrete sides to the basin

angles, as in Fig. 1. It is pushed through holes in the frames 1in. from the bottom.

This pipe should be screwed at the outside end for a brass hose connector and at the delivery end for a brass cap or jet.

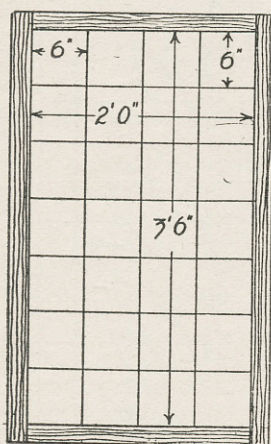


Fig. 4—Plan of coping stone frame

Lay the pipe in position, with the jet end truly vertical and, central. It is best rested on a piece of board, then the jet end can be fixed vertically with wooden blocks each side.

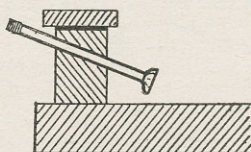


Fig. 3—Suction pipe holes on the slope

Coat the inside of the mould with whitewash or oil to prevent the concrete sticking. Now fill the mould with concrete and level off smooth. Leave to set for a day or two then break the mould away. The jet end of the pipe should be hidden from view by packing it round with cement and stones.

For the coping slabs, proceed as follows. On a flat surface lay down a $\frac{3}{4}$ in. thickness of damp sand, making the surface level. Get 4 strips of wood, 1 $\frac{1}{4}$ ins. thick, and knock together to form a frame of the dimensions given in Fig. 4.

Fill up to the level of the frame with a concrete mixture of 1 part cement to 3 parts sand. Let this stand for two to three hours then, with the aid of a trowel, cut into 6in. sq. slabs.

After a day or two these slabs can be lifted from the sand and stacked for a week before using. They are then cemented to the top of the walls of the basin, as seen in the general view. The 28 slabs will just be enough.

The fountain is now ready for the water supply, which will be dealt with in a subsequent article.

(To be continued)

A FRETWORK TEAPOT STAND

ON page 69 will be found full size patterns for the little teapot stand illustrated here. It is cut out in any fretwood from three small pieces, a piece of glass and four little circular feet.

For the Stand you need one piece of wood $\frac{1}{4}$ in. thick 5 $\frac{1}{4}$ ins. square, and two pieces of $\frac{1}{8}$ in. wood 5 $\frac{1}{4}$ ins. square. The largest piece forms the base, and on it is pasted the pattern shown full size.

On this base there are two overlays (A and B), both of which are plain circular rims which serve to hold the glass in place. The dotted lines on the pattern of the base, show the larger rim which can be marked direct on to $\frac{1}{8}$ in. wood with a pair of compasses.

For the outer circle, mark a radius 2 $\frac{1}{2}$ ins. and the inner radius is 2 $\frac{1}{8}$ ins. This inner circle will just accommodate the piece of clear glass 4 $\frac{1}{4}$ ins. in diameter which is supplied by Hobbies Ltd. It is No. 5839 and costs 3d. with 3d. extra for postage.

The Circular Rims

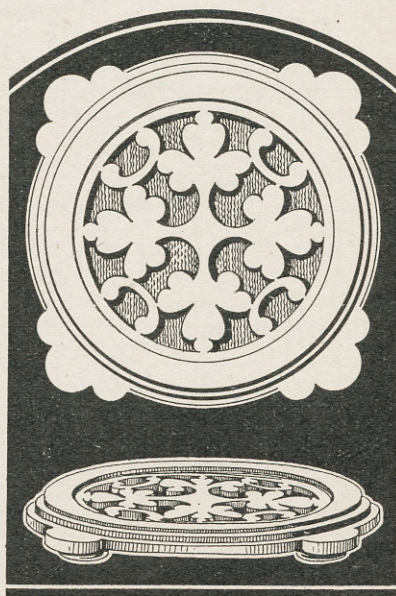
The upper overlay (B) is shown as a half pattern, and this can be either duplicated to complete it, or else once again two circles can be drawn on the wood with the compasses. Here the outer circle is 2 $\frac{3}{4}$ ins. radius, and the inner circle 2ins.

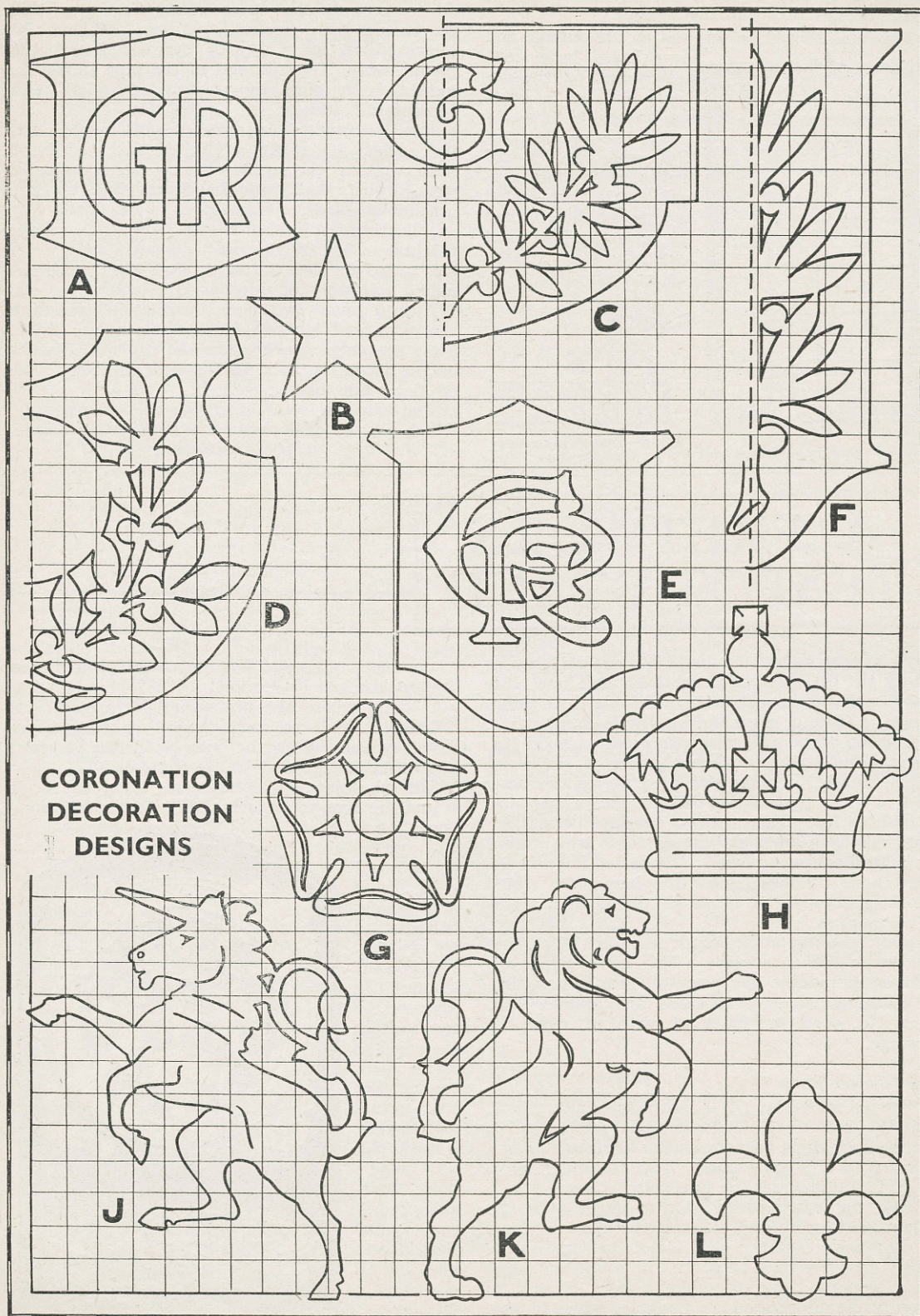
This rim when nicely cut, is glued over the other overlay rim and so holds the glass in place. If the thickness of the glass is not the same as the wood, then it should be packed up round the edges with blotting paper to make a tight fit and to prevent liquid running in under it when in use.

The base, of course, has its fretted centre, then underneath four little round feet (Hobbies No. 20) are added where the projecting parts come. If desired, a circle of some bright material, silver tinsel, coloured paper or linen cloth can be glued to form a background to the fretwork.

This small piece of work is sure to appeal for it is just the type to undertake in a spare half hour and from odd pieces of wood which might otherwise be wasted.

If you cut it out in plywood, be sure to stain the edges so dark you cannot see the actual ply layers. A dark oak stain is quite suitable or you can paint the largest base and all the edges a jet black.





**CORONATION
DECORATION
DESIGNS**

CORONATION DECORATIONS



MANY readers have written us recently asking for diagrams and particulars of suitable decorations which they can make for the Coronation. There is no doubt that the festivities which will take place will offer great scope for the handyman and particularly the user of the fretsaw, because in most places there will be prizes awarded for best decorations. Even apart from that, there is the natural loyalty which will induce everyone to make a special "splash" for the period, and to decorate their houses with bunting and display matter to the best of their ability.

It is impossible to give a complete range of the work which can be undertaken, but these few notes and diagrams on the opposite page offer a number of facilities to readers. They have, in

also quite applicable. In any case, remember that decorations outside will need to be painted or varnished to make them waterproof.

Do not use plywood unless its surface is completely covered to keep off the rain. If you put the plywood out in its natural state the wet and then the dry will in all probability cause the plies to separate and spoil the whole work.

Cheap plywood is quite good enough for this because it will not need to be of lasting quality, and too, you may be able to get some wallboards from a builder who may be quite prepared to let you have a number of odds and ends cheap.

We have already dealt with the question of painting and waterproofing in our issue of March 27th, and those who have not had that should procure a copy at once.

Do not think because the Coronation is still several weeks off that there is plenty of time. Do not leave it until the last minute then have to rush it. Already a number of readers have commenced work, and it is surprising when you get down to it how long these jobs take, because of the paint

drying, or the varnish setting, or the parts to be cut.

On work like this an ordinary coarse fretsaw can be used quite well because there is no great amount of interior work or close delicate cutting which will be seen.

The patterns seen opposite are printed so they can be redrawn by any worker to whatever size he wishes. There we have shields, monograms, the Tudor Rose, the Crown, as well as the unicorn



Two simple shield shapes

this respect, a big advantage over the ordinary householder, because they can cut out and complete really striking pieces of work which will stand out to earn the admiration of all who see them.

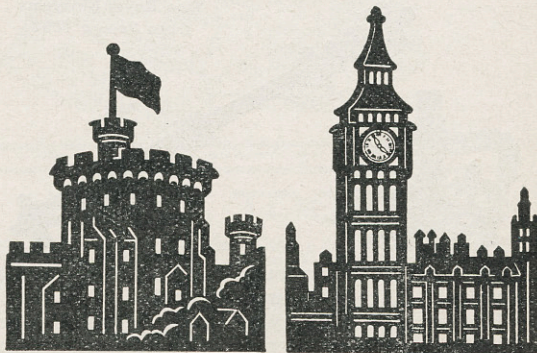
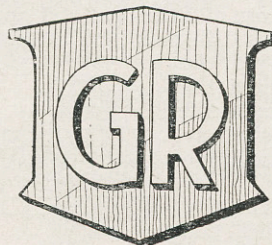
Do not, for instance, be content with just a few flags and a string of bunting. Get out something original—something which is both novel and attractive. This can quite easily be done by means of the fretsaw because designs are obtainable which can be worked up and cut quite easily.

There are, of course, the ordinary plain shapes of squares, diamonds, rectangles, circles and ovals, which always form a basis for monograms or lions, or unicorns, or the Royal Coat of Arms painted upon them. Moreover, shields are always popular at this time, and they are quite simple to draw.

Material to Use

We have already shown in these pages a means of cutting out and mounting special display matter, whilst the patterns shown opposite will be a further aid.

Plywood is the most suitable common material, but wallboards and composition partition stuff is



Two striking patterns you can cut

and the lion rampant, suitable for cutting out. These are all drawn in squares to make a simple outline.

First of all, of course, you must decide what size you are going to have your finished display, then get a piece of paper sufficiently large to take it. Suppose you would like to have the Crown a foot across and nearly 10½ ins. high. This is roughly six times the size of the pattern H shown. Therefore measure off one of the squares and multiply this up six times on to the larger piece of paper. That forms the dimension of one square and can be easily done with a pair of compasses or dividers.

Enlarging Shapes

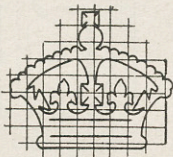
Then take this one enlarged square and mark it along the two sides of the paper, finally linking up as a complete rectangle divided into the squares similar to those over the Crown at H. It is then a simple matter to draw in the outline, passing the pencil mark through the squares on the larger sheet similar to those on the smaller pattern.

A further aid is to letter the squares down one side and to number them along the bottom, thus one can easily see that the line goes through, say, A 1, A 2, B 3, C 3, and so on. The diagram here-with illustrates the procedure quite plainly.

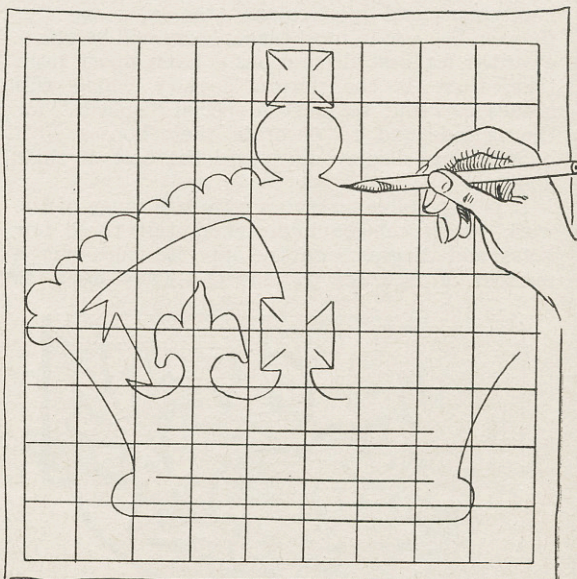
In the case of the unicorn and the lion (at J and K), these can often be used in pairs and in such case when one has enlarged the figure to the size required the whole thing can be traced off and transferred the opposite way round to be cut out as a separate part.

Thus, you can have the two unicorns with a large shield and G.R. between, or a unicorn on one side and a lion on the other. In the patterns provided there are two types of monogram "G.R." and a third with the letter G alone. These are shown on the page on a shield or fancy background, but there is no need to keep them in that particular position.

If you want the letters G.R. as shown in the pattern at A, you can easily trace them off and put them on to a shield or like E. These letters should be painted quite a distinctive colouring



Showing how a design (left) can be enlarged (right) by means of squares



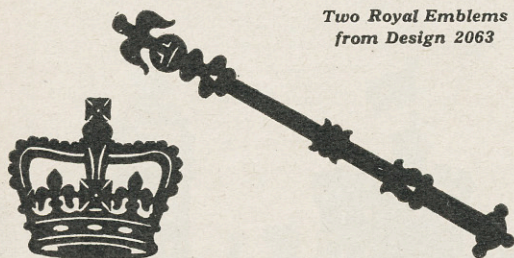
Crown, a Sceptre, as well as silhouettes of the Houses of Parliament and Windsor Castle. These are illustrated here, and those who require the design can obtain it by asking for No. 2063 and sending 4½d. to cover cost and postage.

Suitable Patterns

The whole of this design itself can very well be utilised for the Coronation if the wording "Celebrating the Jubilee" were omitted and Coronation wording substituted. If any reader wishes, we can show him the position and wording on this particular pattern; whilst a plaque provided by Hobbies of the King and Queen can well be added to the centre of the design in the place of the one of King George.

Further, the smaller patterns on that sheet (No. 2063) would lend themselves quite well to smaller decorations if placed on shield or plain outlines as a background.

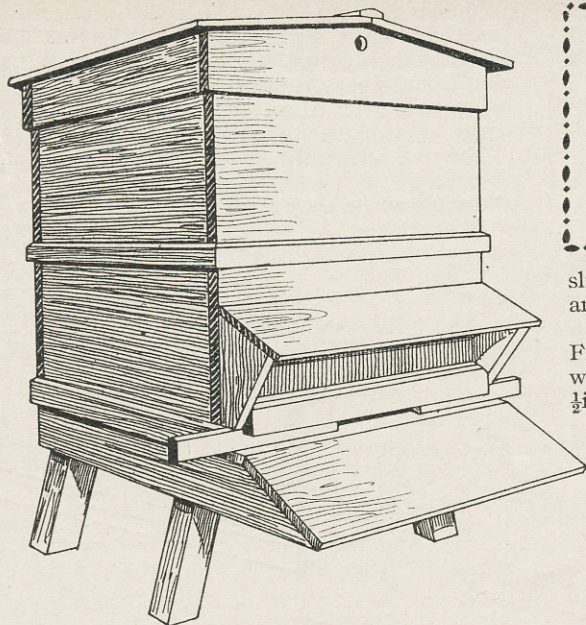
The predominant colouring for painting should, of course, be red, white and blue, and if only a small amount of work is being done you cannot do better than utilise the Crusoe enamels supplied in tins at 2d. each. A card giving the range of colours available is obtainable for 1½d. stamp.



*Two Royal Emblems
from Design 2063*

from whatever background they are stood upon, in order to make them project in relief.

Readers who have followed our electrical pages will also be able to incorporate illuminated effects. The lettering on G.R. for instance, can well be



IN making this standard bee-hive it is important to adhere to the dimensions given, and to use well seasoned timber of the specified thicknesses. The joints can be nailed together, using oval brads, and driving them in at an angle—skew nailing as it is called. Those who feel inclined to make stronger joints can dovetail the corners.

Fig. 1 shows the floor frame, the sides and ends are cut from 1 in. thick timber. Leave 18 ins. of the sides full width, reduce the width of the rest $\frac{1}{2}$ in., then, leaving the reduced portion 4 ins. long, bevel the rest off.

The Floor Frame

The legs are 2 ins. by 2 ins. and are screwed to the frame to splay outwards, as in Fig. 2. The frame should now be covered with $\frac{1}{2}$ in. thick boards, as shown in Fig. 3 and blocks of the same thickness and measuring 2 ins. sq. are glued and nailed where indicated.

The brood chamber, Fig. 4 comes next. Cut the front and back pieces of $\frac{1}{2}$ in. thick wood, and the sides of $\frac{3}{4}$ in. thick wood. Nail together. Cut lengths of $\frac{1}{2}$ in. by $1\frac{1}{2}$ ins. wood for the plinth,

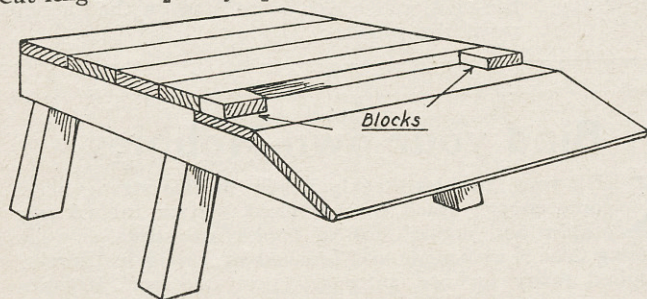


Fig. 3—Framework covered by boards

HOW TO MAKE A STANDARD BEEHIVE

slightly bevel the upper edge and nail round sides and back, letting the plinth project beneath $\frac{3}{4}$ in.

Cut the porch sides, C (shown separately at Fig. 5) and nail in front, the bottom coming level with the top of the plinth. The porch roof is of $\frac{1}{2}$ in. thick wood, nailed across.

The sliding bars, A, are 10 ins. long and cut from $\frac{1}{2}$ in. by $1\frac{1}{4}$ in. wood. They are made to slide together so that the entrance can be adjusted in width as desired.

This is effected by either rebating the piece B or, what is simpler, making B of two pieces of $\frac{1}{2}$ in. thick wood and nailing them together, as in Fig. 6. Piece B is then nailed to the front of hive, between the porch sides. The brood chamber can now be fitted to the floor section.

The lift, Fig. 7 is the same dimensions and

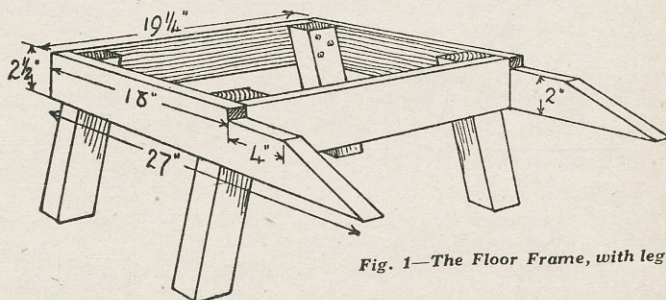


Fig. 1—The Floor Frame, with legs

made of the same thicknesses of wood as the brood chamber, except the height, which is $6\frac{1}{2}$ ins. The plinth is fitted the same also, then the lift

CUTTING LIST.

- Floor Section—**
 Sides, 1 in. by 2 ins. by 4 ft. 6 ins.
 Ends, 1 in. by 2 ins. by 3 ft. 4 ins.
 Legs, 2 ins. by 2 ins. by 2 ft. 10 ins.
 Floor, $\frac{1}{2}$ in. by 4 ins. by 9 ft. 0 ins.
- Brood Chamber—**
 Sides, $\frac{1}{2}$ in. by 9 ins. by 3 ft. 2 ins.
 Ends, $\frac{1}{2}$ in. by 9 ins. by 3 ft. 3 ins.
 Porch, $\frac{1}{2}$ in. by 5 ins. by 2 ft. 4 ins.
 Plinth, $\frac{1}{2}$ in. by 1 ins. by 5 ft. 0 ins.
 Piece B, $\frac{1}{2}$ in. by 1 in. by 3 ft. 0 ins.
 Piece A, $\frac{1}{2}$ in. by 1 ins. by 1 ft. 8 ins.
- Lift—**
 Sides, $\frac{1}{2}$ in. by 6 ins. by 3 ft. 2 ins.
 Ends, $\frac{1}{2}$ in. by 6 ins. by 3 ft. 3 ins.
 Plinth, $\frac{1}{2}$ in. by 1 ins. by 7 ft. 0 ins.
- Body Box—**
 Sides, $\frac{1}{2}$ in. by 9 ins. by 2 ft. 11 ins.
 Ends, $\frac{1}{2}$ in. by 8 ins. by 2 ft. 8 ins.
 Piece D, $\frac{1}{2}$ in. by $\frac{1}{2}$ in. by 2 ft. 8 ins.
 Piece E, $\frac{1}{2}$ in. by 1 ins. by 2 ft. 9 ins.
- Roof Section—**
 Sides, $\frac{1}{2}$ in. by 2 ins. by 3 ft. 5 ins.
 Ends, $\frac{1}{2}$ in. by 3 ins. by 3 ft. 7 ins.
 Roof, $\frac{1}{2}$ in. by 12 ins. by 4 ft. 0 ins.
 Ridge, 1 in. by 2 ins. by 2 ft. 0 ins.

can be dropped over on to the brood chamber.

The body box, which holds the honey sections, is drawn at Fig. 8. Make the sides of $\frac{3}{4}$ in. wood and the front and back of $\frac{3}{4}$ in. wood. The latter pieces are $\frac{3}{4}$ in. less in height as seen, and spaced inwards to leave $14\frac{1}{2}$ ins. clear between on the inside.

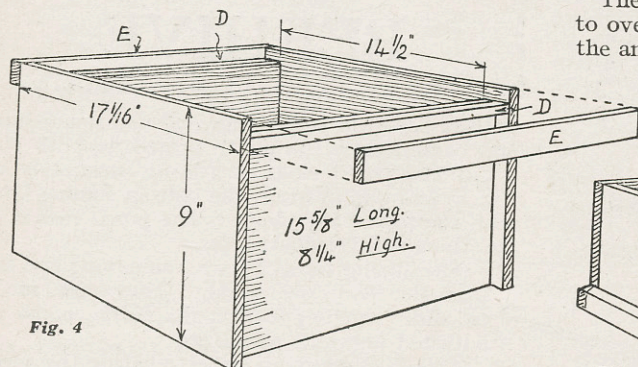


Fig. 4

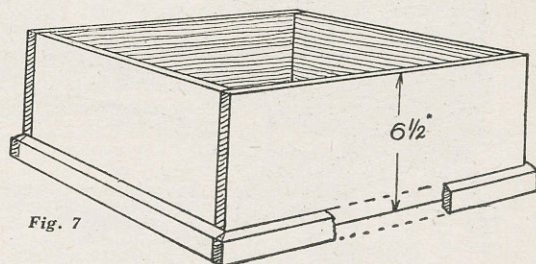


Fig. 7

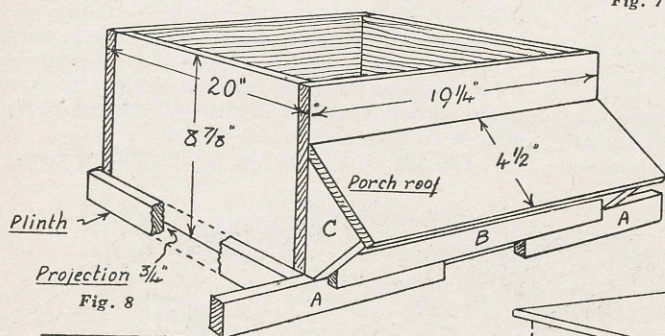


Fig. 8

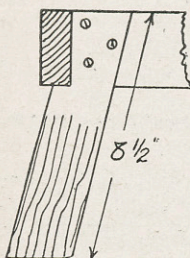


Fig. 2

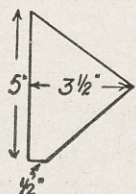


Fig. 5

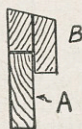


Fig. 6

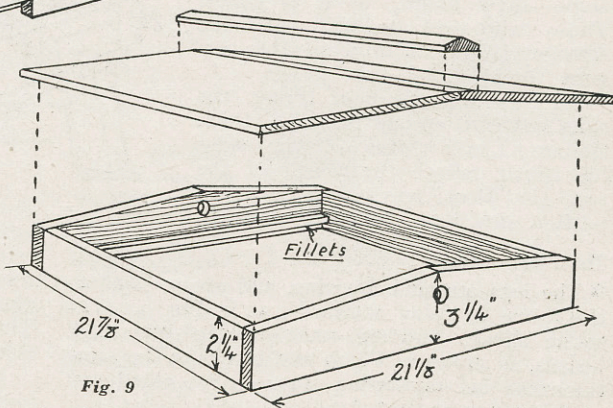


Fig. 9

- Fig. 2. The legs fitted to splay outwards.
Fig. 4. Brood Chamber.
Fig. 5. Porch sides.
Fig. 6. Piece B rebated to fit slides A.
Fig. 7. The lift.
Fig. 8. Body box.
Fig. 9. Roof section.

At D, nail across pieces of $\frac{3}{4}$ in. sq. wood, level with the front and back, which will just bring them level with the ends of the sides. To cover the open ends, nail across $\frac{1}{4}$ in. thick strips of wood, E. The body box can now be placed inside the brood chamber.

The roof section, Fig. 9, has sides and ends of $\frac{3}{4}$ in. thick wood, nailed together. At $\frac{1}{4}$ in. above the bottom edge nail $\frac{1}{4}$ in. sq. fillets across, back and front where shown. Bore $\frac{3}{4}$ in. ventilating holes and cover these on the inside with wire gauge to exclude insects.

The roof boards, $\frac{1}{2}$ in. thick, are cut large enough to overlap 1 in. all round, and nailed on top. At the angle where they meet plane a 1 in. flat to bed

the ridge capping on. The latter can be planed up from a piece of 1 in. by 2 in. wood and nailed.

Now drop the roof section on to the lift, the fillets keeping it in place. This completes the bee-hive, which can be painted on the outside to resist the weather.



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FIREPLACE SCREEN

WE illustrate on this page an artistic fire screen which can be made up from squared wood framed together and filled in with a plywood panel.

The work entailed in making this screen should not be beyond the merest amateur woodworker, and only the usual household tools are needed to make it and put it together. The fretframe enters largely into the work of cutting the joints of the frame, and the shaping of the feet and the overlay.

The screen stands 30ins. high and is 19½ins. wide at the widest part, that is, the top rail. At Fig. 1 is given a front view of the screen with the necessary measurements for spacing out the rails, etc., while at Fig. 2 is shown a side view giving an idea of the fixing of the feet.

The Framework

The first thing to do in making is to prepare the side uprights which, together with the cross rails A, B and C, are of 1in. square stuff supplied ready planed and finished.

Cut off two pieces 27ins. long and set out the halvings as shown in Fig. 3, the spacing will be taken from Fig. 1. Each recess or slot will be cut in to the depth of ½in., and all this cutting can well be done with the fretsaw, as this leaves a clean edge and needs no further work upon it.

The cross rails A and B are 18ins. long and are checked out at their ends as shown, to fit squarely and snugly into the uprights.

The top rail C is 19½ins. long, and both ends are rounded off with the fretsaw and have recesses cut in as shown, the space between these recesses being, of course, 16ins.

All the joints should fit a little stiffly, and when knocked together the frame must be tested for

squareness and the joints then screwed through from the back.

It must be noticed that the arrangement of the joints at the front must be as shown in Fig. 1, that is, the side uprights "run through," so that in Fig. 3 the upper face is the front face.

Around the inside of the frame are nailed four strips of ¾in. square stripwood, two 19ins. long, and two 15½ins. long. These strips are kept flush with the edges of the frame as shown in Fig. 4, and long fret pins should be used as fixing.

The Panel

The panel will next be cut, and it will be best to check the actual sizes of the frame for this, so that it fits reasonably well. Have all angles perfectly

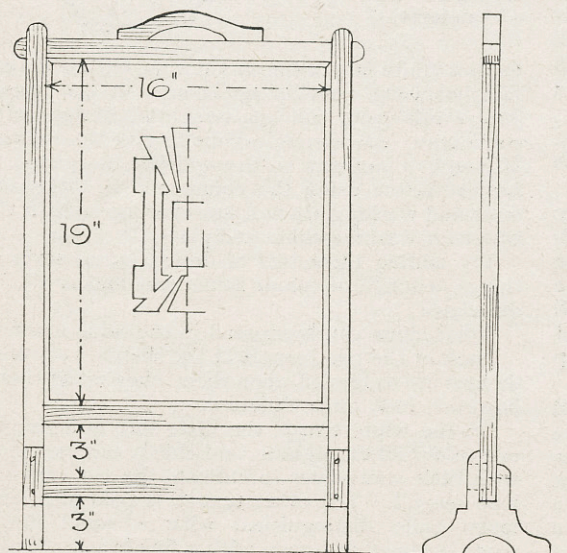
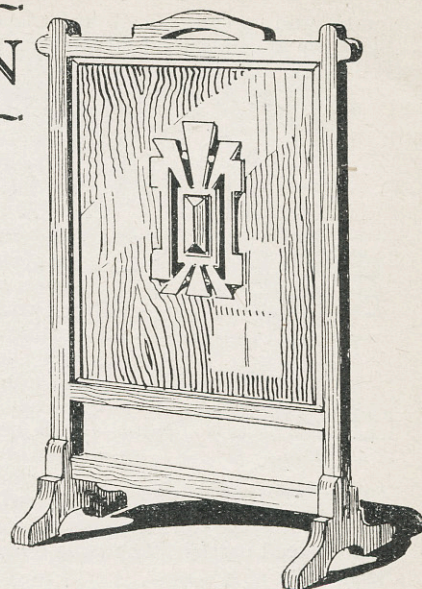


Fig. 1—Front and side elevation with dimensions

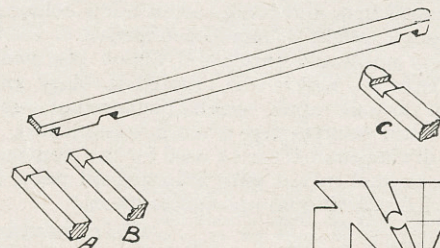


Fig. 3—How the framework is joined

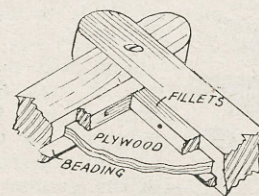


Fig. 4—Details of the centre panel fixing

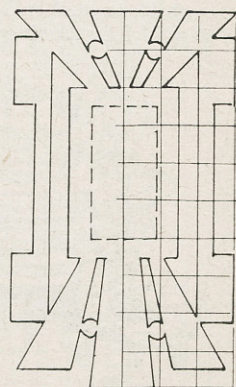


Fig. 2—The centre fretted ornament

square, and having cut it and glasspapered the edges, lay it in place on the stripwood fillets, and then mark and cut four pieces of quarter-round

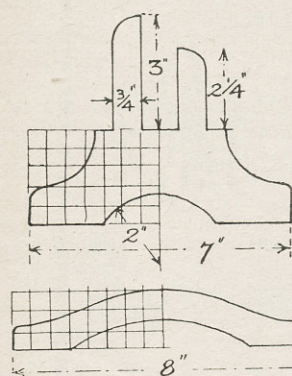


Fig. 5—Details of handle and feet

beading No. 34 to hold the panel in place. The beading will be mitred at the angles to fit nicely. Glue the beading to the frame and the panel, and put in one or two fret pins. The outlines of the feet and the handle are given in Fig. 5.

The former will each be cut from a piece of wood 5 1/2 ins. by 7 ins., and the squared half shown should enable the worker to get an accurate outline of the shaped portion. The same remark applies to the handle.

Having drawn in one half of the outline, the other half can be got by tracing and carbon paper. The upper part of the foot is cut with a 1 in. slot,

so that the frame may be put into it and glued and screwed in place. The handle will be fixed with glue and two screws centrally on the top rail.

The modern type overlay shown in Fig. 6 should be cut from 3/16 in. wood, the squares shown being one-inch sided for enlarging and transferring to the wood. Cut it out carefully with a fine fretsaw and glue it in the middle of the plywood panel. In the centre of the overlay will be glued one of Hobbies wood ornaments No. 213.

All the woodwork should be cleaned up at completion and stained to whatever depth is desired. The satin walnut rails and uprights will take the stain well, and the plywood must be coated carefully to bring it up to match.

The actual finish may be either varnish or french polish brushed on.

CUTTING LIST

- 2 satin walnut strips, 1 in. by 1 in. 27 ins. long.
- 3 satin walnut strips, 1 in. by 1 in. 20 ins. long.
- 2 satin walnut strips, 1 in. by 1 in. 19 ins. long.
- 2 satin walnut strips, 1 in. by 1 in. 16 ins. long.
- 2 pieces beading No. 34 quarter-round. 19 ins.
- 2 pieces beading No. 34 quarter-round. 16 ins.
- 1 piece satin walnut 11 ins. by 7 ins. by 1 in.
- 1 piece satin walnut 8 ins. by 1 1/2 ins. by 1 in.
- 1 piece satin walnut 10 ins. by 6 ins. by 3/16 in. overlay.
- 1 piece 3/16 in. plywood 19 ins. by 16 ins.
- 1 wood ornament, No. 213.

Decorations for Plain China

HAVE you ever noticed what a spot of decoration does to a perfectly plain thing? Take china for instance.

If you have tired of a plain coloured, or white set of bedroom china it is easy to alter it by adding a floral motif here and there—even a few coloured spots in some bright colour look effective.

There is nothing complicated about the small sprig illustrated, which was painted in black and white on a pale apple green background—and the set looked so attractive when it was finished.

Quick drying enamel can be used for the painting, or white enamel mixed with coloured oil paint is splendid for painting non-porous surfaces.

This mixture dries more rapidly, and can be applied more smoothly than oil paint, and is not so liable to chip off; try it.

You will need one or two fine brushes for the painting. Do not take up too much of the enamel in the brush so that it runs, and if you

How everyday articles can be made more artistic by the addition of simple designs and patterns



are not quite sure of the easy design, outline it very faintly—using next to no enamel in the brush. Afterwards you can go over the design with confidence. Always endeavour to give the enamel, although it appears to dry quickly, a chance to harden before using the china, and it will stand wear and washing, do not, however use soda in the water for washing china and glass.

Try adding these bits of design on all sorts of things, a touch of colour sometimes makes all the difference.

Other china can be treated in the same manner. Look at the two teapots in the sketch, very easy designs are suggested upon them, they make them, however, look quite different.

On the white teapot the little ship is a simple, one colour affair, all blue, and chiefly outline work, with little wavy lines to indicate the sea, and one lone seagull. The other teapot, a pale pink one, looks quite distinguished with a small flower spray outlined in brown with a fine brush. Spots are added here and there, which all add to the effect.



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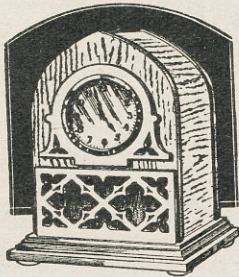
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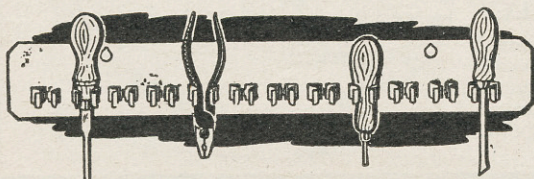
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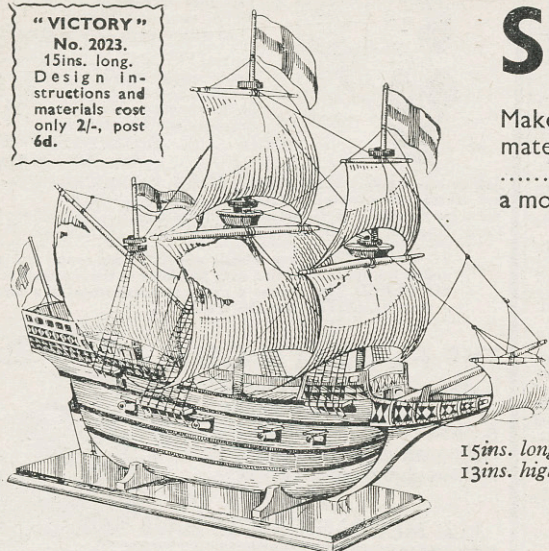
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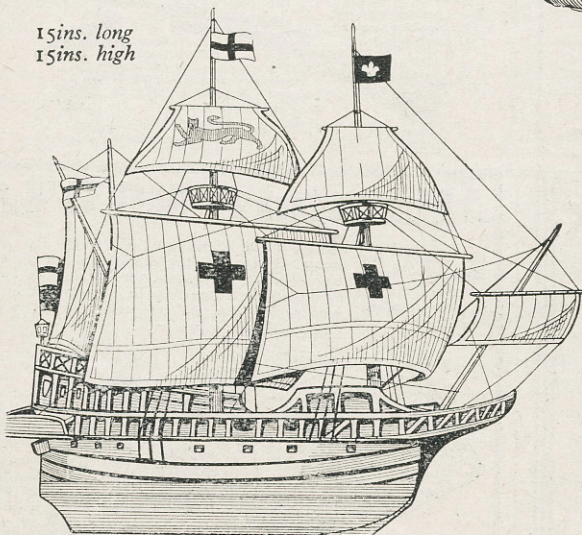


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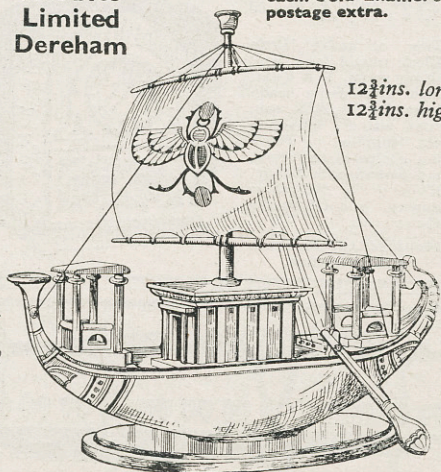
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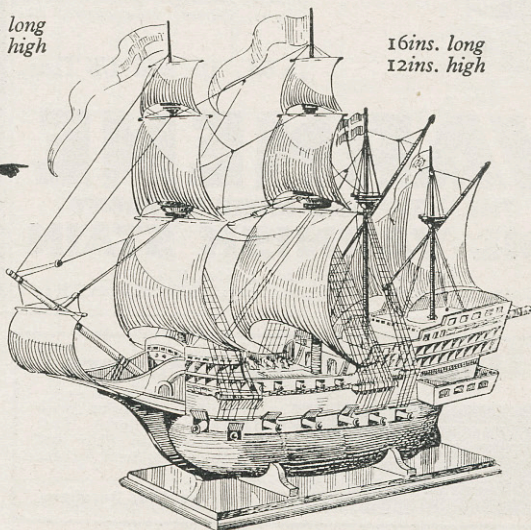
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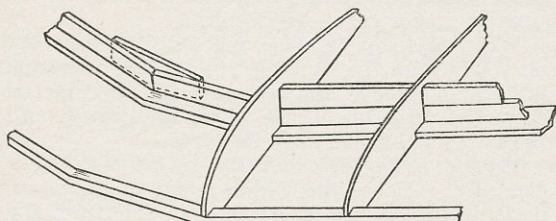
NOTES AND NEWS

MODEL AIRCRAFT TOPICS

Scale Modelling De Luxe

DESPITE the encouragement afforded to scale modelling by the numerous designs and kits of materials now on the market, this class of model has never achieved in this country the popularity it deserves. Possibly this is in some measure due to the small size of the average kit model, which is doubtless justified by the fact that the modest price brings it within the scope of a very wide circle of enthusiasts.

There is no reason, however, why they should not pass on to the design and production of scale models large enough to be really impressive, and it is to be regretted that comparatively few do this. A most commendable example is to be found



The inverted T spar with packing piece and dihedral reinforcer

in Mr. W. L. Henery's 5-ft. span Leopard Moth, which holds the British record for this class with a flight of 45 seconds.

One learns with interest that an American firm is now producing kits of materials for the construction of petrol-engined scale models, 5 to 7 feet in span.

While giving the credit which is undoubtedly due, it is pleasing and just to recall the fact that, as far back as 1933, Messrs. Andrews, Bennett and Collings, of The Model Aircraft Club, London, designed, built and flew a 5-ft. span De Havilland Moth, Mr. Andrews being responsible for the design and construction of the 15 cc. 2-stroke engine installed therein.

Gearing and the Thrust-Line

THE new Wakefield Cup rules are focusing interest on geared motors which, though little used for the light-weight models of the past few years, offer decided advantages for the heavier models now stipulated.

The kind most favoured has two or more skeins of rubber geared together, and driving the propeller at a higher speed, no rubber being coupled to the propeller shaft. Apart from the merits of gears previously referred to in these notes, this particular type has the great advantage that it enables the thrust-line of a high-wing monoplane or biplane to be placed in the ideal position, namely, on the centre of resistance.

With these machines this point is generally in the region of the top longerons, where a directly-coupled rubber skein cannot possibly function. This involves a lowering of the thrust-line to a position where the rubber is clear of the structure, the effects of which are increased sensitiveness to variations in longitudinal trim, and a tendency to stall under the first burst of power from the fully-wound rubber skein.

Useful Wood Sections

MODEL aircraft builders will be helped considerably in their endeavours to combine strength with lightness by making use of T-section and L-section balsa wood, now stocked in 3-ft. lengths by several model shops.

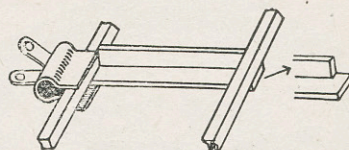
The T-section, if turned upside down, makes an ideal midspar for a wing. The dihedral is applied by making two saw-cuts in the upright part of the spar, bending to the correct angle, and cementing the cuts. Pieces of 1/16in. balsa sheet, shaped as indicated in the illustration and cemented to the spar at these points, will add appreciably to the strength and help to maintain the angle.

The strength and rigidity of the wing can be greatly increased by cementing pieces of balsa sheet to the top edge of the upright part of the spar, in between each pair of ribs. To avoid spoiling the contour of the covering, it is best not to allow these packing pieces to reach quite to the top of the ribs.

L-section is excellent for the horizontal cross-pieces between rectangular-section longerons. The ends should

be cut as shown, and can be secured to the longerons with paper clips while the cement dries.

Rather more skill is needed to employ L-section for the longerons themselves, but this procedure imparts considerable strength to the fuselage, and reduces the chances of distortion through damp, or the strain of the rubber motor.



A fuselage L section and how end spars are cut

A Handy Balsa Cutter

THE fascination of working with balsa is increased by the use of the handy little cutter now being stocked by sundry model shops. The 2-inch metal handle holds a removable, flexible blade with which curves can be cut easily and accurately. The price, including a set of spare blades, is about one shilling.

The Airman

A CANOE FOR TWO

THE pieces for the support of the deck were being dealt with when we left off last week.

The wood required is 18ft. by 3ins. by $\frac{1}{2}$ in., with six screws 2ins. and 20— $\frac{3}{4}$ in. When the bulkheads are fitted into position, take the two pieces 18ft. by 3ins. by $\frac{1}{2}$ in. and tie roughly the end of each to the point of the bow. Bend them both round the bulkheads till they meet at the stem and tie again there. Take care not to force either the bulkheads or stem and stern posts out of line while doing this.

Mark off their length and the angle at which they meet the posts. They should be a little short at each end ($\frac{1}{2}$ in. will do), and the front ones will be cut askew to allow for the angle of the bow from the vertical.

Untie each, see they are both the same length, cut along the marked lines, and retie in position. They should now bend easily round a curve of their own, if there are no knots of any size. These two pieces should be carefully selected for this reason.

If they fit well, untie, glue or lead the joints, tie accurately in position, bore 5 screw holes in each, countersink them, and screw home.

Bulkhead Fixing

Next, make sure the bulkheads are at right-angles to the keel, and screw the side pieces to them, taking care that the screws do not force the

The concluding portion of a practical article which began in last week's issue.

joints apart in the bulkheads. Glue and screw blocks in position between the shear strakes and bulkheads, using 2in. screws.

For the ribs and strakes you need $\frac{3}{4}$ in. round-head and $\frac{1}{2}$ in. screws, 8 lengths of 16ft. "half round" laths.

The most difficult part now is the bending of the ribs (Fig. 10). Plane *lightly* a number of selected laths and leave them to soak overnight in water. Make a few trials first until a smooth permanent bend in one can be obtained as follows:

Heat the wet lath over a gas ring, moving it continually, so all except the ends is heated. Bend slowly but firmly, still heating it. If the lath breaks, it is either a faulty lath, or insufficient heating. Keep re-wetting to stop any burning which will destroy the texture of the wood and make it brittle. Hold the lath at the ends all the time or a poor curve will result.

When this can be done successfully, draw the curve given for the "middle" rib. Bend a selected lath to this curve and when it will stay curved correctly, drive off all the water by beating, and the lath should then keep its curve.

This is a key rib and should be done very carefully. Choose the middle point of its curve, measure the correct length of each side from the drawing and both sides should balance evenly in shape.

Measure the mid-point of the cockpit and bore two gimlet holes in the keel just above the keel stiffeners and the width of the rib apart. Cut out

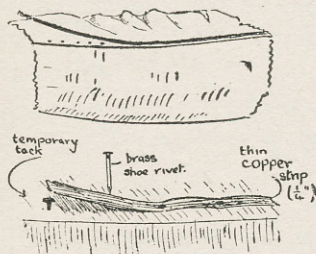


Fig. 13—Fixing canvas to the topside

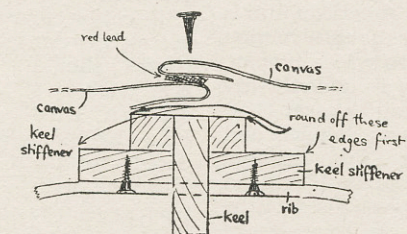


Fig. 14—Section through keel, how to lay canvas

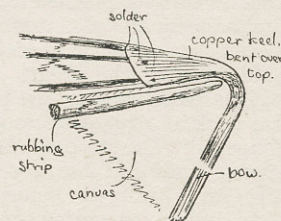


Fig. 15—The finished bow

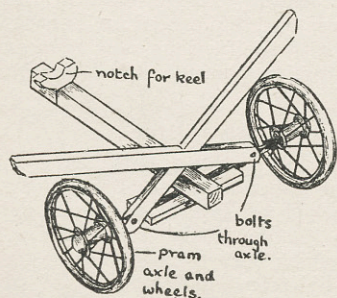


Fig. 16—How a suitable trailer or carrier is made. Sizes depend on the wheels obtainable

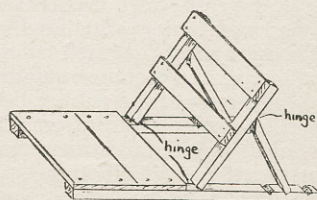
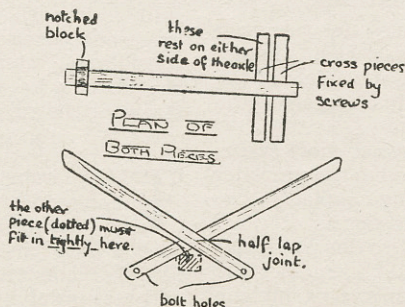


Fig. 17—How the seat is built. It can be padded after completion

the piece between the holes with a chisel. Fit the rib in the hole and slide through until it is in the middle. Screw one $\frac{1}{2}$ in. screw on each side through the rib and stiffener, taking care not to split.

Adjust the top of the rib so its proper length (already marked), coincides with the top of the shear strake and screw down on the inside (a roundhead $\frac{3}{4}$ in. screw which will protrude on the other side).

Bore holes for half the other ribs in the cockpit (there will be seven altogether), 1 ft. apart. The rest of the ribs will be fixed later.

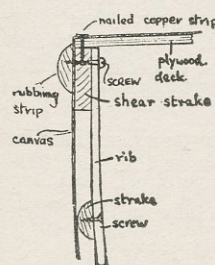


Fig. 18—A section of the topside

The Strakes or Stringers

These are put in next and need careful bending at the ends where they fasten to the bow and stem. They consist of 8—17 ft. lengths of 1 in. "half round," laid outside the ribs for the whole length of the boat.

If expense is a major consideration a less secure but still efficient method is to lay two layers of laths in their place. This may not appear very sound, but in practice is quite successful. The outer laths in this case must be rounded, and each lath screwed to the other one at a joint.

On the middle rib, divide the space between the top piece and the keel stiffener into four. Screw the middle of a strake to one of these points marked.

Bend the strake round, cut off at the required length and slope, and screw to the stem. Repeat at the other end. Do the same with all the other strakes, making them equidistant from each other down the whole length of the boat and both sides alike.

Always treat both sides similarly. If a bulge appears in the line of the boat (as it should not do), either try to eradicate it or see that the other sides bulge in the same way.

The rest of the ribs (Figs. 1 and 11) are placed at every 6 ins. and only half the ribs in the cockpit piece the keel. The rest over the whole craft are in two halves, each half screwed to the keel stiffener. The half ribs are bent and put in first, but are not finally screwed down till all the others are in position.

Begin at the centre rib. Bend a half rib similar in shape to the one already in place. Repeat with its corresponding other half.

Screw one end in position to the keel stiffener and adjust the other end so that the rib just touches all the strakes but does not force them out of position. Screw down this end with a $\frac{3}{4}$ in. round-head screw.

Treat each half rib similarly, screwing down and trimming the tops off level. See that each rib only just touches each strake when in position. This is very important or else the smooth curve of the boat may be spoiled. Glasspaper each rib as it is put in, rounding it on the inside.

The whole ribs are cut and placed in position next, taking care to see that each side is similar.

Finish all the ribs, the extreme ones at the bow and stem will have to be tapered, possibly, at the bottom and fastened to the keel by a screw from the outside. Trim all the tops level with the sides.

The ribs are then screwed to the strakes, one screw at each join. Small wedges will have to be made and inserted between most of the joints to allow for the difference in direction of curvature of the rib and the strake.

These joints again can be either leaded or glued with waterproof glue. Glasspaper the whole hull.

The boat is now taken off the stocks, and two strips of wood 8 ft. long and about $\frac{3}{4}$ in. wide laid on the underside on either side of the keel and planed down level with it.

Deck and Cockpit

For these we require plywood and 2—9 ft. lengths of 2 ins. by $\frac{1}{2}$ in. wood.

The actual cockpit is shaped like a shell, flat at the back, curved sides and coming to a point over the top of the fore bulkhead.

Sketch out the shape of the cockpit, across and bend two pieces of 2 ins. by $\frac{1}{2}$ in. to this shape by heating. Mark out and cut pieces of plywood to fit over the whole deck, and nail down at the sides. Place the bent coamings on top and screw into position from the underside of the plywood.

Round off the top edge of the cockpit, and at the front screw a stout block in position. At the stern, nail a piece of 2 ins. by $\frac{1}{2}$ in. to the bulkhead and the side cockpit coamings can be nailed to it.

Paint all the outside, but not the deck top, with two coats of bituminous paint. When this is dry, oil the inside and deck top with linseed oil, and when it has soaked in, apply several coats of a good oil varnish.

MATERIALS

and approximate costs

	£	s.	d.
1. WOOD.			
20ft. by 4ft. by $\frac{3}{4}$ in. best red deal. (2d. ft.) ..	3	4	
1 bundle of builder's laths (500ft.) (see text)	3	6	
and/or 8 lengths 16ft. "half round" (1in.) for these	10	8	
2 lengths 16ft. "half round" (1in.) (1d. ft.)	2	8	
4ft. by 7ins. by 1in. red deal. (4d. ft.)	1	4	
2 lengths of 18ft. by 2ins. by $\frac{1}{2}$ in. deal (no knots). (1d. ft.)	3	0	
2 lengths of 9ft. by 2ins. by $\frac{1}{2}$ in. deal. (1d. ft.)	1	6	
2 lengths of 9ft. "quarter round" ($\frac{3}{4}$ in.) (1d. ft.)	1	0	
2 lengths of 14ft. by 2ins. by $\frac{1}{2}$ in. deal. (1d. ft.)	2	4	
2. CANVAS.			
11yds. white (or green) duck canvas, 12 or 15oz. (1/10)	1	0	2
3. SCREWS, ETC.			
1 gross $\frac{1}{2}$ in. brass screws	3	0	
2in. and 3in. brass screws	3	0	
4 doz. roundhead brass screws ($\frac{3}{4}$ in.)	1	6	
Copper tacks and nails (1 $\frac{1}{2}$ ins.)	2	0	
Brass sheet rivets ($\frac{3}{4}$ in.)	6	0	
Copper strip ($\frac{1}{2}$ in.) and 18 gauge (1in.)	6	0	
Others—paint, glue (1/6), etc.	5	0	
Approximate total cost	3	10	6

Keep the bituminous paint and the varnish separate, and allow the former to dry before applying the varnish. The whole keel can be given five or six coats of the paint, as it is a good protection against rot. The only point in not covering the whole framework with the bituminous paint is that the varnish gives a much better appearance.

For covering the boat you need copper tacks, 11yds. roll of canvas, red lead boiled oil compound.

The length of canvas is unrolled and cut in half (Figs. 12, 13 and 14). The boat is upturned and a piece of canvas spread along one side. Stretch the canvas by tacking one end and pulling the other. Tack down lightly round the keel and topside, eliminating creases by stretching. When all creases have been stretched out and the canvas is as tight as possible, turn a hem down on the keel and drive the copper tacks on the keel home about 1½ ins. to 2 ins. apart.

Fixing the Canvas

The canvas should not be tacked along the top side but nailed through a strip of copper with ½ in. brass shoe rivets as shown, the nails about 1 in. apart. (Thin strip copper ½ in. wide is obtainable at a metal dealer).

Take the top edge of the canvas over the deck and trim off at the cockpit, allowing about 1½ in. spare. Treat the deck first with red lead, then lay the deck canvas on this, fold a hem where it touches the cockpit and secure by nailing a strip of "¼ round" all round the cockpit.

If the canvas falls short, as it probably will at the front of the cockpit, a waste piece will have to be carefully sewn on with sewing twine (obtainable from a yacht store).

Nail a strip of copper from the front of the cockpit to the bow and similarly at the stem.

Next oil the canvas all over with a mixture of boiled oil, raw oil, a little terebene, and some turpentine to thin out. When this is dry, give a coat of stiff size. The boat is then ready to paint.

First a false keel is laid—1½ ins. by 1 in. by 12 ft. tapered at the ends and nailed (1½ in. copper nails) to the keel. Then bilge keels 8 ft. by 1 in. by ½ in. tapered and screwed to the second strake from the keel.

A copper keel will now give an excellent finish and will take a lot of wear. This is a strip of gauge 18 copper 1 in. wide, and in all 18 ft. long to cover the whole keel from bow to stem. It will have to be bent to a U shape to fit over the bow and stem. A metal worker will probably do this for a small sum if the reader is unable.

Bore seven holes in the copper 1 ft. apart and countersink, and screw it firmly to the keel with 1 in. brass screws. At the point of the bow and stem it is tapped into shape with a mallet, and soldered to the copper strips fastening the canvas.

Next lay a rubbing strip (17 ft. of 1 in., half round) round the edge of the top sides, unscrewing the screws through the top of the ribs (which still project) and screwing them up in the strip.

Any good oil paint will do—not varnish paint;

enamel is better still. An undercoat is necessary first and if this sinks in too much, give another coat of strong size. Glasspaper slightly. When this is dry apply the enamel sparingly. Two or three coats gives a good finish. Do not paint the inside of the boat but give several coats of an oil varnish as already described.

Fittings

Seats are detachable from the boat and merely rest on the floor while the back is hinged as shown. Movable seats are necessary (Fig. 17).

Floor boards are made from two sheets of 3 ply and 8 ft. long in all, and stiffened on the underside with laths. They lie on either side of the keel and are curved on the outside edge to fit the curve of the boat.

A trolley is very helpful in transporting the boat, and a simple one is shown at Fig. 16. The writer has towed the canoe for 15 miles behind a push bike, the front tied to the bike and the back on the trolley.

Performance

Many items were taken into consideration in the designing and building of this boat, and the result is an exceptionally seaworthy craft of great strength and stability. The carrying capacity is very high, for the boat (although planned to carry two people), has been tested with three adults, equal to a load of 4 cwt. in fairly calm water.

Where to go

River travel can be undertaken almost anywhere, as only 5 or 6 ins. of water is necessary. Stakes and sharp rocks prove a danger, but the thickness and strength of the canoe is usually proof against any obstruction of this kind.

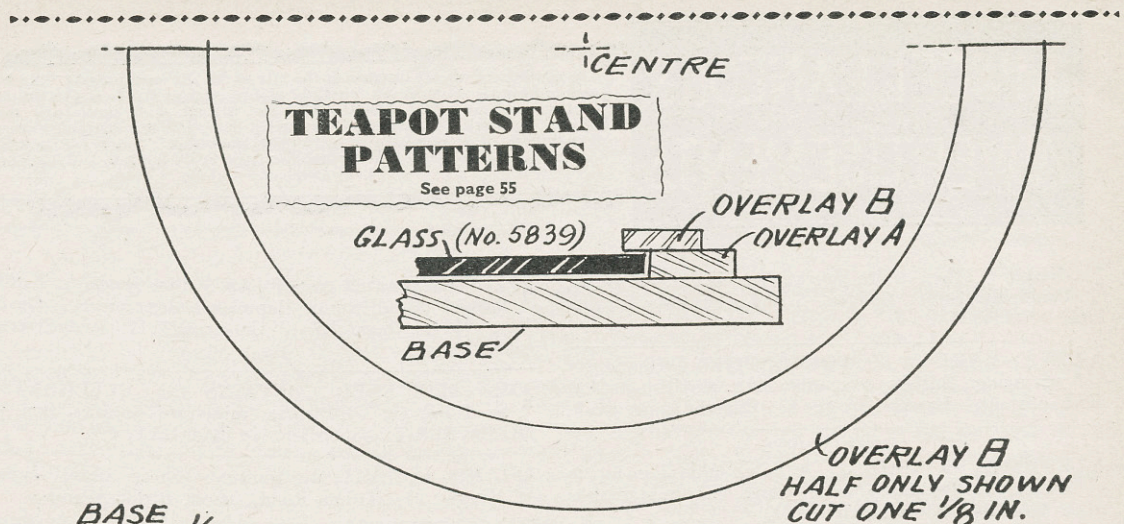
If a tear does occur (this is very unlikely), scrape off the surrounding paint, and stick a wide piece (2 ins.) of waterproof sticking plaster over the joint. Paint over thickly. The same can be done inside if possible.

Sea travel is by far the most interesting, and is often exciting. Trim the boat well, never stand up unless expert, and keep the craft end on to the waves.

Wear the spray sheet if the waves are breaking at the tops or you will have to start baling. This applies to all "white water" in river or sea if it is violent.

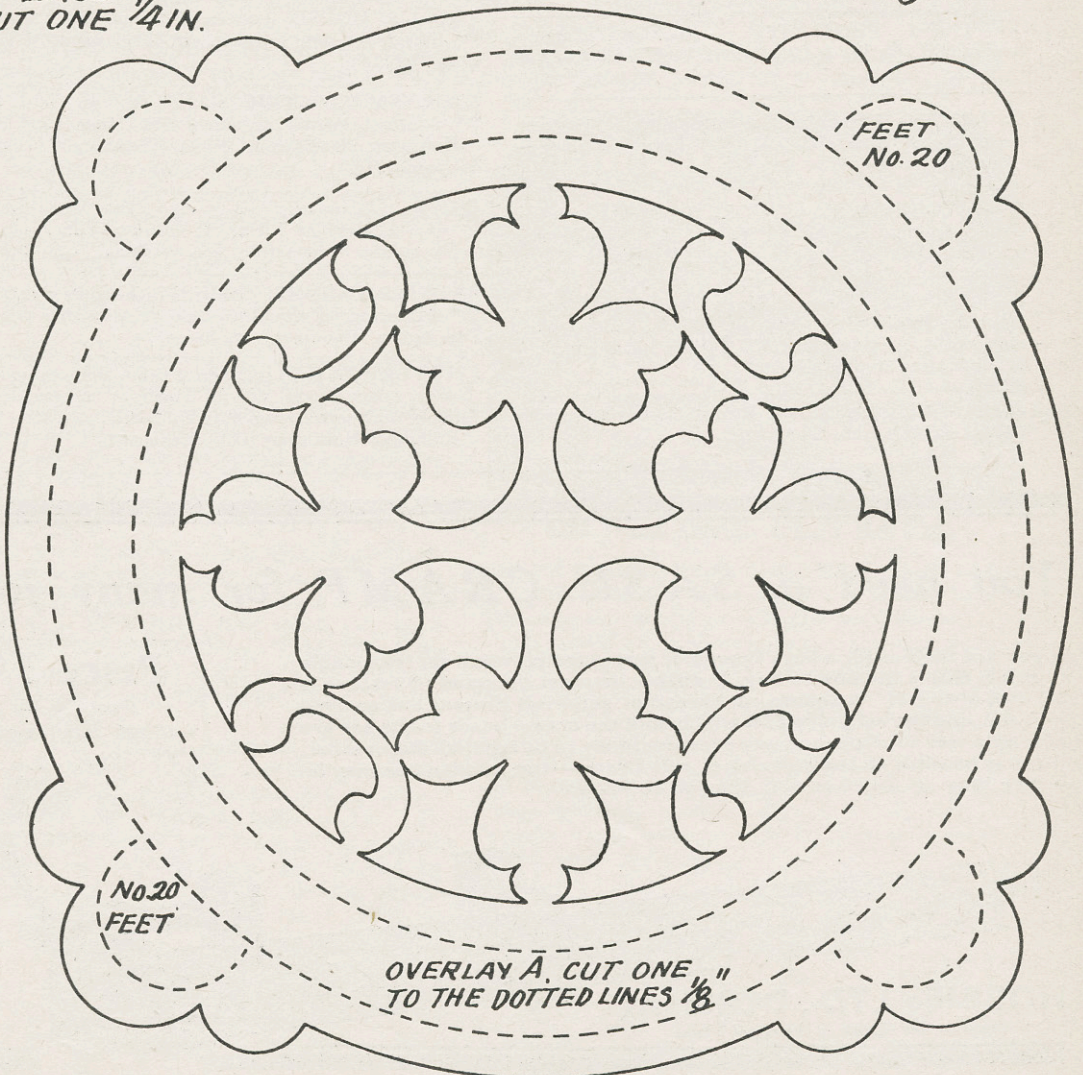
Do not scrape the boat over sand, it soon takes off the paint, always carry it. Canoes can be taken on most of the canals cheaply, if the locks are not used. A pass is necessary to travel on a canal, and is obtainable from the company, whilst there are usually also charges for distance and lockage dues.

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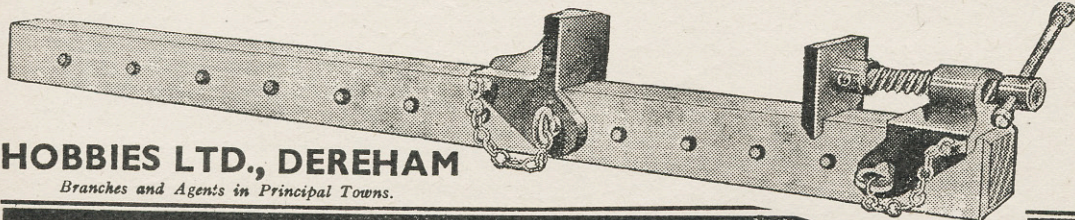
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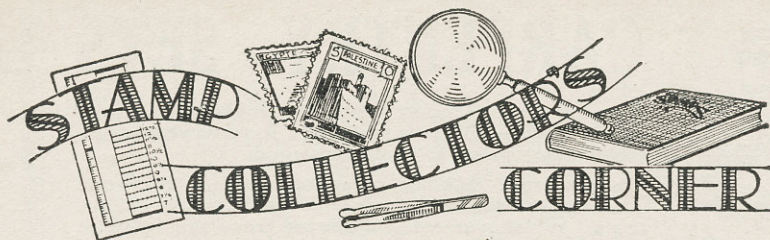
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NOTES ON NEW ISSUES

THE first illustration is one of what, for want of a better name one might call "The Civil War" stamps from Spain. It is rather a difficult matter to write about stamps and the effect which a civil war may have upon them, because one is so likely to come across all sorts of funny overprints and issues, catch phrases, and slogans find their way on to the stamps. Yet few, if any, know how or why these slogans got where they did.

One has only to look at the catalogue and see the number of issues in Mexico from 1913 to 1914.

Apparently Spain is suffering in the same way, for already there are many different types of overprints in existence because as supplies in a town run short they make up the deficiency by some local overprint. The Nationalist overprint "Viva España" is clearly shown on the 10c. of the issue of 1931.

The idea of a universal language to be understood by everybody in the world is a very old idea indeed, and more than 200 attempts have been made to form such a language.

Dr. Zamenhof invented Esperanto in 1887 and the Russian Stamp 14 kopeks of the 1927 commemorates the 40th anniversary of the invention. On that stamp is the portrait of Dr. Zamenhof.

Now Brazil presents us with the stamp here illustrated to commemorate the Esperanto Congress held at Rio de Janeiro. The design, which is made up by taking national flags arranged like the spokes of a wheel, is very appropriate, though it is somewhat difficult to pick out individual flags.

This is, of course, rendered more difficult by the fact that the flags on the stamp are all printed in the one colour—were the flags represented in their proper colours the task would be simplified very considerably. The Union Jack will be noticed by the "KO" of the word Kongreso.

THE Morocco Agencies 90c. on 9d. is illustrated among these new issues to remind readers that until the new stamps of a reign are prepared the old ones have to remain on duty. So we still have the King George V. stamps in use, and these are still being issued.

Another reason for showing this stamp is because this specimen unused and the 10d. surcharged one franc. (also unused) may both be purchased for 8d. the pair. Both stamps, that is, for less than the face value of one of them! The surcharging to the French currency is the explanation.

By the way, have you all got a complete set of the King George V. stamps of your own country? Up to the 1/- value at least? If you have not, then set about getting them at once. If, too, any in the album at present are so badly post-marked that you have to tell people the value of the stamp, or that the portrait is of King George V. then get a better specimen while they are still in circulation.

This advice is not given because the writer expects that these stamps will ever become of great rarity, but because any self-respecting stamp collector should be able to show a complete set of good specimens of the stamps of his own country.

Yet one very frequently finds this far from the case, the reason being most probably that a person does not like to exchange an English stamp which he may possibly get sent to him on a parcel, for one of his own foreign

or Colonial which are not likely to be sent.

Now should be the time to look at the English stamps in your album, before the new King George VI. stamps are on the market. Remember that when these come you will have to find space for them, and if you just put them in anywhere it will spoil the look of the display. Take the trouble now to put all the stamps of this country into proper shape.

Take them all out if necessary. If you have not your own catalogue borrow one and put them all back in perfect order. The Queen Victorian come first in correct order of value, then the King Edward VII, followed by King George V. and then the King Edward VIII. Then you should have a page worthy of mounting the new stamps when they come.

THREE good action stamps come from Colombia to commemorate the 4th National Olympiad. The values are 3c., 10c. and 1p. respectively, the lowest value showing a footballer dribbling. At least we hope that it is meant to be dribbling because if it is meant to be kicking, then the position of the right leg is wrong.

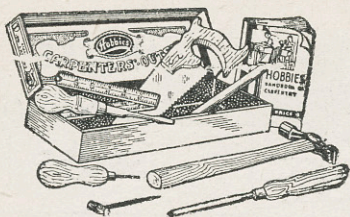
The 10c., the discus thrower, is definitely badly drawn, for the left leg should be straight when throwing. That is a bad fault, and in fact the position shown has quite a number of points which could be improved. The highest value shows a runner, and in this case the action is a very nice one indeed.



Spanish War
Overprint

Representing
Esperanto

Still in Use



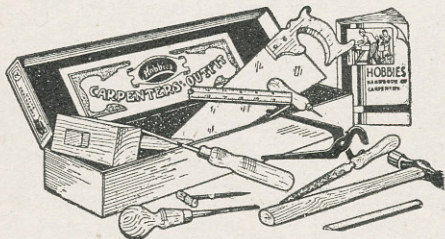
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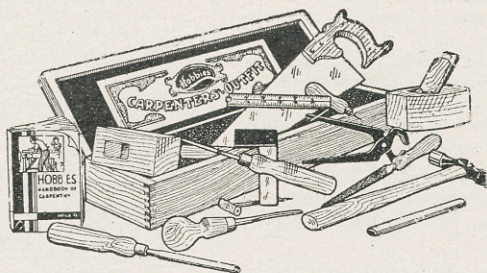
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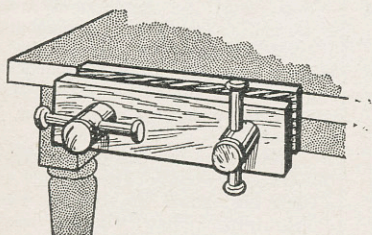
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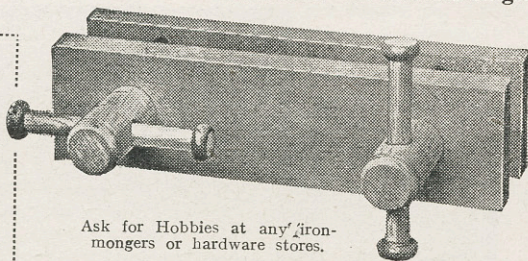


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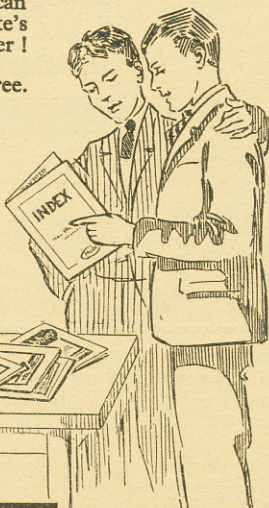
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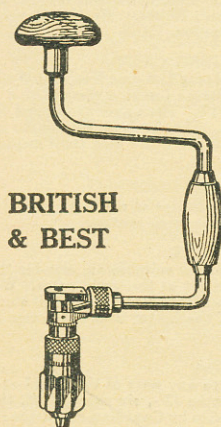
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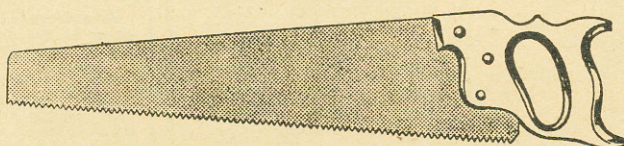
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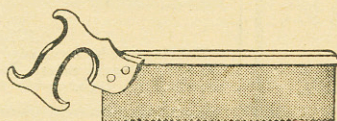
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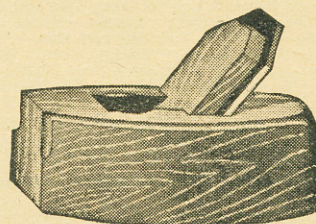
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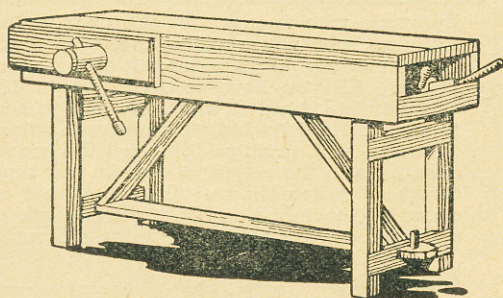
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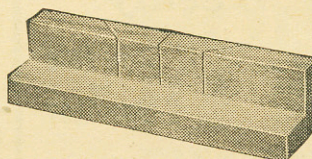
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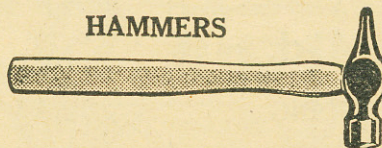
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